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* * * * * Welcome to STN International * * * * *

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NEWS 2 OCT 02 CA/CAPLUS enhanced with pre-1907 records from Chemisches
Zentralblatt
NEWS 3 OCT 19 BEILSTEIN updated with new compounds
NEWS 4 NOV 15 Derwent Indian patent publication number format enhanced
NEWS 5 NOV 19 WPIX enhanced with XML display format
NEWS 6 NOV 30 ICSD reloaded with enhancements
NEWS 7 DEC 04 LINPADOCDB now available on STN
NEWS 8 DEC 14 BEILSTEIN pricing structure to change
NEWS 9 DEC 17 USPATOLD added to additional database clusters
NEWS 10 DEC 17 IMSDRUGCONF removed from database clusters and STN
NEWS 11 DEC 17 DGENE now includes more than 10 million sequences
NEWS 12 DEC 17 TOXCENTER enhanced with 2008 MeSH vocabulary in
MEDLINE segment
NEWS 13 DEC 17 MEDLINE and LMEDELINE updated with 2008 MeSH vocabulary
NEWS 14 DEC 17 CA/CAPLUS enhanced with new custom IPC display formats
NEWS 15 DEC 17 STN Viewer enhanced with full-text patent content
from USPATOLD
NEWS 16 JAN 02 STN pricing information for 2008 now available
NEWS 17 JAN 16 CAS patent coverage enhanced to include exemplified
prophetic substances
NEWS 18 JAN 28 USPATFULL, USPAT2, and USPATOLD enhanced with new
custom IPC display formats
NEWS 19 JAN 28 MARPAT searching enhanced
NEWS 20 JAN 28 USGENE now provides USPTO sequence data within 3 days
of publication
NEWS 21 JAN 28 TOXCENTER enhanced with reloaded MEDLINE segment
NEWS 22 JAN 28 MEDLINE and LMEDELINE reloaded with enhancements
NEWS 23 FEB 08 STN Express, Version 8.3, now available
NEWS 24 FEB 20 PCI now available as a replacement to DPCI
NEWS 25 FEB 25 IFIREF reloaded with enhancements
NEWS 26 FEB 25 IMSPRODUCT reloaded with enhancements
NEWS 27 FEB 29 WPINDEX/WPIDS/WPIX enhanced with ECLA and current
U.S. National Patent Classification

NEWS EXPRESS FEBRUARY 08 CURRENT WINDOWS VERSION IS V8.3,
AND CURRENT DISCOVER FILE IS DATED 20 FEBRUARY 2008

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* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 12:00:31 ON 10 MAR 2008

=> file reg		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 12:00:46 ON 10 MAR 2008
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STRUCTURE FILE UPDATES: 9 MAR 2008 HIGHEST RN 1007215-88-4
DICTIONARY FILE UPDATES: 9 MAR 2008 HIGHEST RN 1007215-88-4

New CAS Information Use Policies, enter HELP USAGETERMS for details.

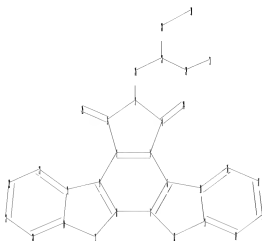
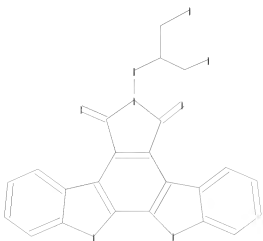
TSCA INFORMATION NOW CURRENT THROUGH January 9, 2008.

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REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stdoc/properties.html>

=>
Uploading C:\Program Files\Stnexp\Queries\10524274product.str



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chain nodes :
24 25 26 27 28 29 30 31
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
chain bonds :
2-25 3-26 4-24 26-27 27-28 27-29 28-30 29-31
ring bonds :
1-2 1-5 1-9 2-3 3-4 4-5 5-6 6-7 6-10 7-8 7-12 8-9 8-13 9-15 10-11
10-16 11-12 11-19 13-14 14-15 14-20 15-23 16-17 17-18 18-19 20-21 21-22
22-23
exact/norm bonds :
1-2 2-3 2-25 3-4 3-26 4-5 4-24 6-10 7-12 8-13 9-15 11-12 13-14 26-27
28-30 29-31
exact bonds :
27-28 27-29
normalized bonds :
1-5 1-9 5-6 6-7 7-8 8-9 10-11 10-16 11-19 14-15 14-20 15-23 16-17
17-18 18-19 20-21 21-22 22-23

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Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
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28:CLASS 29:CLASS 30:CLASS 31:CLASS

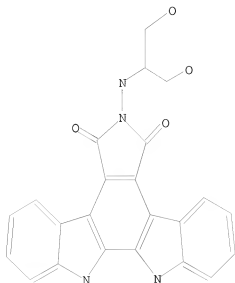
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L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l1

SAMPLE SEARCH INITIATED 12:01:05 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 2 TO ITERATE

100.0% PROCESSED 2 ITERATIONS 2 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 2 TO 124
PROJECTED ANSWERS: 2 TO 124

L2 2 SEA SSS SAM L1

=> s l1 full

FULL SEARCH INITIATED 12:01:09 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 58 TO ITERATE

100.0% PROCESSED 58 ITERATIONS 55 ANSWERS
SEARCH TIME: 00.00.01

L3 55 SEA SSS FUL L1

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

ENTRY

TOTAL

SESSION

FULL ESTIMATED COST

178.36

178.57

FILE 'CAPLUS' ENTERED AT 12:01:13 ON 10 MAR 2008

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10/03/2008,10524274.trn

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FILE COVERS 1907 - 10 Mar 2008 VOL 148 ISS 11
FILE LAST UPDATED: 9 Mar 2008 (20080309/ED)

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<http://www.cas.org/infopolicy.html>

=> s l3

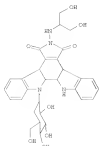
L4 60 L3

=> s l3/P

L5 16 L3/P

=> d ed abs ibib hitstr tot

15 ANSWER 1 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN
 RD Entered STN: 19 Jun 2007
 GI



2

AB A seven-step process for producing the title glycoside 1, which has anticancer activity, is reported. In particular, the catalyst used in the preparation of the indolol fragment from β -aminotyransene are unavailab.

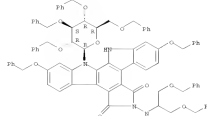
ACCESSION NUMBER: 2007:655303 CAPLUS
 DOCUMENT NUMBER: 147:257970
 TITLE: Process for producing an indoleglycolcarbazole glycoside
 INVENTOR(S): Aizuchi, Akao; Matsui, Kazuaki; Asayuki, Kanetani; Tashiki, Mas
 PATENT ASSIGNEE(S): Sanofi Pharmaceutical Co., Ltd., Japan
 SOURCE: Brev. Pat. 2007, 89pp.
 COUNTRY: JAPAN
 DOCUMENT TYPE: Patent
 LANGUAGE: Postgraze
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION(S):

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005040723	A	2005-11-14	JP 2005-723	2005-03-04
PRIORITY APPL. INFO.			JP 2005-723	2005-03-04

OTHER SOURCE(S): CASREACT 147:257970

15 ANSWER 1 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 IT 357401-16-29
 RI: IMP (Industrial manufacture); ACT (Assessment); SPS (Synthetic preparation); PREP (Preparation); ACT (Assessment or reagent) (process for producing an indoleglycolcarbazole glycoside)
 IN 357401-16-2 CAPLUS
 CN 58-Indole[2,3-a]pyrrole[3,4-c]carbazole-5,7(4H)-dione, 11-[β -D-glucopyranosyl-12,13-dihydro-2,10-dihydroxy-6-[12-hydroxy-1-(phenylmethoxy)methyl]ethyl]amino]-4-[2-(phenylmethoxy)-1-(phenylmethoxy)methyl]-12-[2,2',4,4'-tetraakis-O-(phenylmethoxy)- β -D-glucopyranosyl]- (FC2) (CA INDEX NAME)

Absolute stereochemistry.

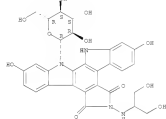


IT 174402-32-59

RI: IMP (Industrial manufacture); SPS (Synthetic preparation); PREP (Preparation)
 IN 174402-32-5 CAPLUS
 CN 58-Indole[2,3-a]pyrrole[3,4-c]carbazole-5,7(4H)-dione, 11-[β -D-glucopyranosyl-12,13-dihydro-2,10-dihydroxy-6-[12-hydroxy-1-(phenylmethoxy)methyl]amino]-4-[2-(phenylmethoxy)-1-(phenylmethoxy)methyl]-12-[2,2',4,4'-tetraakis-O-(phenylmethoxy)- β -D-glucopyranosyl]- (FC2) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

15 ANSWER 1 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



15 ANSWER 2 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN
 RD Entered STN: 09 Dec 2005
 GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB An industrially preferable process for producing the N-(β -D-glucopyranosyl)indoleglycolcarbazole derivative (I) or a pharmaceutically acceptable salt thereof, which is useful as an anticancer agent, comprises treatment of the general formula (II), (Z = NH, H, Cl-alkyl, Ph, benzylmethyl, allyl); R1-R6 = NO-protecting group), a solvent thereof, or a salt of either in an inert solvent with a base and then with

an acid, treatment of the resultant liquid reaction mixture in an inert solvent with a base and then with an acid, subsequent reaction of the resulting compound II (Z = O, R1-R6 = same as above) with an acid addition salt of hydrazine dihydrochloride (CH2OH)2, (R7, R8 = H, NO-protecting group) (VA is absent or acid) in the presence of an acid scavenger, removing the protective group of the resultant compound II (Z = NH/CH(OH)/CH2OH, R1-R6 = same as above). Thus, 2,3,4,6-tetra-O-benzyl- β -D-glucopyranosyl chloride and 12,13-dihydro-2,10-benzoyl-5 β -indole[2,3-a]pyrrole[3,4-c]carbazole were stirred in the presence of triethylamine hydrochloride in a mixture of tert-butyl methyl ether and 40 weight aqueous KOH solution at 20-25° for 4 h to give, after workup, 93% of 11.0.4-NH2OMe (Z = NH, R1-R6 = CH2Ph) which was stirred with a mixture

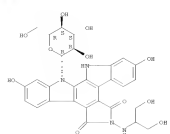
of toluene and 40% aqueous KOH solution at room temperature overnight, cooled to -5°, treated dropwise with 10 weight acetic acid to adjust pH at 6.7, and stirred at room temperature for 2 h to give, after workup, 92% of II (Z = O, R1-R6 = CH2Ph). II (Z = O, R1-R6 = CH2Ph) and N-(1-benzylmethyl)-2-benzoylmethylhydrazine 1/2 oxalate were heated in N,N-dimethylacetamide in the presence of Et3N at 60° for 3 h to give crude II (Z = NH/CH(OH)/CH2OH, R1-R6 = CH2Ph) which was hydrolyzed over 100 h at 60° in a mixture of THF, isopropanol, and 3 N aqueous HCl solution at 40° and 40 psi N pressure for 14 h to give 20% of I.

ACCESSION NUMBER: 2005:1289781 CAPLUS
 DOCUMENT NUMBER: 144:2644
 TITLE: Process for producing N-(β -D-glucopyranosyl)indoleglycolcarbazole derivative
 INVENTOR(S): Iida, Toshiaki; Hirano, Shouichi; Takasawa, Akihito; Masu, Toshiaki
 PATENT ASSIGNEE(S): Sanofi Pharmaceutical Co., Ltd., Japan
 SOURCE: PCT Int. Appl., 63 pp.
 COUNTRY: JAPAN
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION(S):

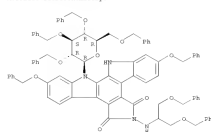
15 ANSWER 2 OF 16 CAPLUS COPYRIGHT 2008 ACS ON STM (Continued)
 PATENT NO. KIND DATE APPLICATION NO. DATA
 WO 2005116044 A1 20051208 WO 2005-398674 20050526
 M: AL, AG, AU, AM, AT, AV, AX, BA, BB, BG, BR, BS, BT, CA, CH, CN, CO, CU, CY, CZ, DE, DK, DM, EA, EC, EG, ES, FI, GB, GR, GU, HK, HU, IE, IL, IN, JP, KR, KZ, LB, LU, LV, MA, MD, ME, MG, MK, MN, MU, NL, NO, NZ, OM, OS, PA, PE, PG, PH, PL, PT, RO, RU, SC, SD, SG, SI, SK, SM, ST, SV, TH, TR, TT, UA, US, UZ, VE, VN, YU, ZA, ZM, ZW
 RM: BG, BR, CH, CN, DE, ES, FI, FR, GB, GR, HU, IE, IL, IN, JP, KR, KZ, LB, LU, LV, MA, MD, ME, MG, MK, MN, MU, NL, NO, NZ, OM, OS, PA, PE, PG, PH, PL, PT, RO, RU, SC, SD, SG, SI, SK, SM, ST, SV, TH, TR, TT, UA, US, UZ, VE, VN, YU, ZA, ZM, ZW
 RM: BG, BR, CH, CN, DE, ES, FI, FR, GB, GR, HU, IE, IL, IN, JP, KR, KZ, LB, LU, LV, MA, MD, ME, MG, MK, MN, MU, NL, NO, NZ, OM, OS, PA, PE, PG, PH, PL, PT, RO, RU, SC, SD, SG, SI, SK, SM, ST, SV, TH, TR, TT, UA, US, UZ, VE, VN, YU, ZA, ZM, ZW
 AU 200524784 A1 20051208 AU 2005-24784 20050526
 AU 2547949 A1 20051208 CA 2005-247849 20050526
 EP 2147412 A2 20070222 EP 2005-147553 20050526
 S4 AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IL, IN, JP, KR, KZ, LB, LU, LV, MA, MD, ME, MG, MK, MN, MU, NL, NO, NZ, OM, OS, PA, PE, PG, PH, PL, PT, RO, RU, SC, SD, SG, SI, SK, SM, ST, SV, TH, TR, TT, UA, US, UZ, VE, VN, YU, ZA, ZM, ZW
 CN 1949999 A 20070509 CN 2005-86017193 20050526
 IN 2005206976 A 20070620 IN 2005-088976 20061122
 US 2005197786 AL 20070623 US 2004-197786 20061127
 JP2005177 APPL. INFO. JP 2004-160193 A 20040528
 WO 2005-398674 M 20050526

CHEM SOURCE(S): MARPAT 1461646
 IT 174402-32-5P R1: IN (Industrial manufacture); RM (Pharmaceutical activity); STM (Synthetic preparation); TH (Therapeutic use); ROL (Biological study); PREP (Preparation) (USE Used)
 (preparation of N-[β-D-glucopyranosyl]indolepyrrolizidine derivative as anticancer agent)
 RM 174402-32-5 CAPLUS
 CN 58-Indole[2,3-a]pyrrole[3,4-c]carbazole-5,7(6H)-diene, 12-β-D-glucopyranosyl-12,13-dihydro-2,10-dihydroxy-6-[(2-hydroxy-1-hydroxypropyl)ethyl]amino- (CA INDEX NAME)
 Absolute stereochemistry. Rotation (+).

15 ANSWER 2 OF 16 CAPLUS COPYRIGHT 2008 ACS ON STM (Continued)

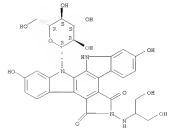


IT 357691-16-2P R1: IN (Industrial manufacture); RCT (Reactant); STM (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of N-[β-D-glucopyranosyl]indolepyrrolizidine derivative as anticancer agent)
 RM 357691-16-2 CAPLUS
 CN 58-Indole[2,3-a]pyrrole[3,4-c]carbazole-5,7(6H)-diene, 12,13-dihydro-1,10-bis(phenylethoxy)-4-[(2-phenylethoxy)-1-phenylethoxy]methyl-ethyl-12,13,4,4-tetrakis-O-(phenylethyl)-β-D-glucopyranoside- (PCT) (CA INDEX NAME)
 Absolute stereochemistry.



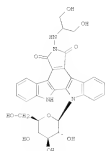
15 ANSWER 2 OF 16 CAPLUS COPYRIGHT 2008 ACS ON STM (Continued)
 REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

15 ANSWER 3 OF 16 CAPLUS COPYRIGHT 2008 ACS ON STM
 RE Entered STM: 03 Sep 2004
 RA A review, Ranby Pharmaceutical Co Ltd and Pfizer Inc (formerly Pharmacia Corp) are developing edotecarin, an indolecarbazole topoisomerase I inhibitor, for the potential treatment of solid tumors. This article describes the synthesis, structure-activity relations, metabolism, pharmacokinetics, toxicity, clinic development, side effects, and contraindications of the compound
 ACCESSION NUMBER: 2004-173704 CAPLUS
 DOCUMENT NUMBER: 141.040874
 TITLE: Edotecarin (Ranby/Pfizer)
 AUTHOR(S): Henry, William A.
 CORPORATE SOURCE: Auckland Cancer Society Research Centre, School of Medical Sciences, The University of Auckland, Auckland, 2020, N. Z.
 SOURCE: Hcuz (2004), 7(3), 173-177
 CODEN: JDRPHN 155H 1369-7056
 Thomson Scientific
 DOCUMENT TYPE: Journal/General Review
 LANGUAGE: English
 IT 174402-32-5P, Edotecarin
 R1: ADV (Adverse effect, including toxicity); ROL (Miscellaneous); PAC (Pharmaceutical activity); PREP (Pharmaceutical use); STM (Synthetic preparation); TH (Therapeutic use); ROL (Biological study); PREP (Preparation) (USE Used)
 (edotecarin preparation and pharmacol. as topoisomerase I inhibitor and antitumor agent.)
 RM 174402-32-5 CAPLUS
 CN 58-Indole[2,3-a]pyrrole[3,4-c]carbazole-5,7(6H)-diene, 12-β-D-glucopyranosyl-12,13-dihydro-2,10-dihydroxy-6-[(2-hydroxy-1-hydroxypropyl)ethyl]amino- (CA INDEX NAME)
 Absolute stereochemistry. Rotation (+).



REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

15 ANSWER 9 OF 16 CAPLUS COPYRIGHT 2008 ACS ON STM (Continued)
 GI Entered STM: 15 Oct 2001



AB IND topoisomerase I inhibitors are currently under investigation as cancer chemotherapy agents of which indolecarbazole glycoside I has been identified as a promising candidate. A practical, scalable synthesis of

I that limits the isolation of cytotoxic compds. to only that of the final product is described. The convergent process features a novel phase transfer-promoted glycosylation of glycone over subsequent hydrolysis provides anhydride. The hydrolysis fragment, which is coupled with the aglycone, is cyclized via a modification of existing procedures. The coupled product is subsequently hydrolyzed to provide I in excellent purity via direct crystallization (99.3 AN).

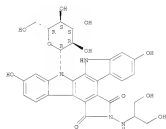
ACCESSION NUMBER: 2001:169921 CAPLUS
 DOCUMENT NUMBER: 136167601

TITLE: Practical synthesis of a potent
 indolecarbazole-toxoid.

AUTHOR(S): IND topoisomerase inhibitor
 Aiko, A.; Hiraga, S.; Iida, T.; Kamataki, A.;
 Kawasaki, M.; Mase, T.; Nemoto, T.; Sakai, M.;
 Weissman, S. A.; Tachibana, D. M.; Nakan, K. F.

PETRIOL: D. J. Reamer, S. A. Volante, R. P.
 CORPORATE SOURCE: Process 3 & D, Sanyo Pharmaceutical Co. Ltd, Osaka, Japan
 SOURCE: Tetrahedron (2001), 57(43), 8917-8923
 CORDR: 7877349, 3380, 5045-6225

15 ANSWER 9 OF 16 CAPLUS COPYRIGHT 2008 ACS ON STM (Continued)
 GI Entered STM: 31 Aug 2001



REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

15 ANSWER 9 OF 16 CAPLUS COPYRIGHT 2008 ACS ON STM (Continued)

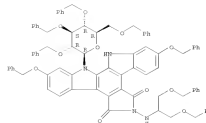
PUBLISHER: Elsevier Science Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 136:167601

IT 317401-16-2P
 RI: RCT (Reactant); SM (Synthetic preparation); PREP (Preparation); RAC (Reactant or reagent)
 [Preparation of a glycoside indolecarbazole, a potent DNA

topoisomerase inhibitor using a phase transfer-promoted glycosylation as a key step]

RI 317401-16-2 CAPLUS
 RI 58-Indole[2,3-a]pyrrolo[7,4-c]carbazole-5,7(6H)-diene,
 12,13-dihydro-1,19-bis(phenylethoxy)-6-[2-(phenylethoxy)-1-
 (phenylethoxy)methylamino]-12,13-dihydro-2,10-dioxole-6-[2-(hydroxy-1-
 D-glucopyranosyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 174402-12-5P

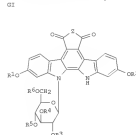
RI SM (Synthetic preparation); PREP (Preparation)
 [Preparation of a glycoside indolecarbazole, a potent DNA

topoisomerase inhibitor using a phase transfer-promoted glycosylation as a key step]

RI 174402-12-5 CAPLUS
 RI 58-Indole[2,3-a]pyrrolo[7,4-c]carbazole-5,7(6H)-diene,
 12-phenylethoxy-12,13-dihydro-2,10-dioxole-6-[2-(hydroxy-1-
 (hydroxymethyl)ethylamino)- (CA INDEX NAME)

Absolute stereochemistry. Notation (+).

15 ANSWER 9 OF 16 CAPLUS COPYRIGHT 2008 ACS ON STM (Continued)
 GI Entered STM: 31 Aug 2001



AB Described are a process for preparing indolopyrroloindolecarbazole glucoside
 deriv. I [I = N-HNCH(CR2OH)CH2OH; R1-R6 = H] by treating a compound I

[I = N-HNCH(CR2OH)CH2OH; R1-R6 = H] with a base in an
 inert solvent to prepare a compound I [I = O; R1-R6 are each
 independently a

hydroxyl-protecting group] (III), reacting III with a compound of formula
 HNCH(CR2OH)CH2OH (IV, X = an acid mol.; R7 and R8 are each
 independently hydrogen or a hydroxyl-protecting group) to prepare a
 compound I

[I = HNCH(CR2OH)CH2OH; R1-R6 are each independently a
 hydroxyl-protecting group; R7, R8 = same as above] (V), and deprotecting
 the compound V intermediates III, IV, and V and a process for preparing

compd. IV. The intermediates such as I [I = O; N-HNCH(CR2OH)CH2OH; R1-R6 = H]
 exhibited low topoisomerase I-inhibitory activity (IC50 of 31,000 nM)
 which eliminates the danger of exposing workers to highly active compds.
 and thus the need for using a specialized isolation apparatus. The above
 process is a safe and easy industrial process for preparing

indolopyrroloindolecarbazole deriv. I [I = N-HNCH(CR2OH)CH2OH; R1-R6 = H]
 useful as antitumor agents (no data). Thus, 670 mg I [I = 366; R1-R6 =
 CH2Ph] was stirred in 30 ml ethanol at room temperature for 1 h, treated
 dropwise with 8 ml 5 N aqueous NaOH over a period of 20 min at room

temperature,
 stirred at 60° for 4 h and then at room temperature overnight, treated
 with 20 ml toluene and dropwise with 1.0 N aqueous HCl over a period of
 3 min

to make pH 2.6, treated with 10 ml THF, and stirred at room temperature
 for 4 h
 to give 85% I [I = O; R1-R6 = CH2Ph]. To the latter compound and 15 ml
 N,N-dimethylacetamide were added 0.23 g N-(1-hydroxyethyl-2-
 hydroxyethyl)hydrazine hemisulfate (preparation given) and 87.30 and the

15 ANSWER 9 OF 16 CAPLUS COPYRIGHT 2008 ACS on STM (Continued)
resulting mat. was stirred at 40° for 1.5 h to give 925.1 [E = 8-WUCH(C20H20O2), 81-86 = CH20] which (100 mg) was dissolved in 10 mL MeOH/THF (50/50), treated with 102 mg 10N NaOH and 100 mL 1 n eq. HCl, and hydrolyzed under hydrogen pressure of 29.4 Pa at 60° for 3 h to give 594 (E = 8-WUCH(C20H20O2), 81-86 = 8).

ACCESSION NUMBER: 200143082 CAPLUS
DOCUMENT NUMBER: 135011231

TITLE: Process for preparing indolopyrrolizocarbazole derivatives, intermediates therefor, and preparation process of the intermediates

INVENTOR(S): Haseg, Shouichi; Kawasaki, Masahiko; Akao, Atsushi; Kametani, Kenyoshi; Sugiyama, Masayuki; Nakano, Fumio

PATENT ASSIGNEE(S): Banyo Pharmaceutical Co., Ltd., Japan
SOURCE: JPT Int. Appl., 61 pp.
COUNTRY: JP6002

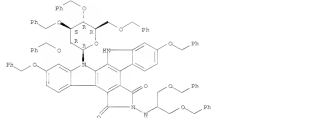
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

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MO 2001042769	A1	20010930	MO 2001-071289	20010222
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JP 2154390	T	20040430	JP 2001-562551	20030222
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US 2004040621	A1	20020327	US 2002-203080	20020806
US 4709376	B2	20040934	JP 2000-48140	A 20000224
PRIORITY APPL. INFO:				

OTHER SOURCE(S): CASREACT 135211231; MARPAT 135211231
IT 357401-11-TP 357401-16-TP

REACT (Reactant): SPH (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
agents, process for preparing indolopyrrolizocarbazole derivs. as antitumor

15 ANSWER 9 OF 16 CAPLUS COPYRIGHT 2008 ACS on STM (Continued)

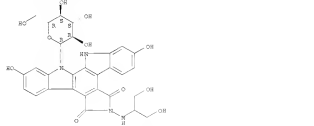


IT 174402-32-3P
RE: SPH (Synthetic preparation); THF (Therapeutic use); BIOL (Biological study); PREP (Preparation); THF (Therapeutic use)

agents, intermediates therefor, and preparation process of intermediates)
MO 174402-32-5 CAPLUS

CH 58-Indole [2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12-β-D-glucopyranosyl-12,13-dihydro-2,10-dihydro-6-[12-hydroxy-1-(hydroxymethyl)ethyl]amino- (CA INDEX NAME)

Absolute stereochemistry. Notation (+).



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

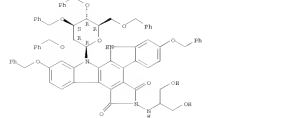
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15 ANSWER 9 OF 16 CAPLUS COPYRIGHT 2008 ACS on STM (Continued)

intermediates therefor, and prep. process of intermediates)
MO 357401-11-7 CAPLUS

CH 58-Indole [2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12,13-dihydro-6-[2-hydroxy-1-(hydroxymethyl)ethyl]-2,10-bis(phenylmethoxy)-12,13,14,6-tetra-O-(phenylmethyl)-β-D-glucopyranosyl-1- (R1) (CA INDEX NAME)

Absolute stereochemistry.



MO 357401-16-2 CAPLUS

CH 58-Indole [2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12,13-dihydro-2,10-bis(phenylmethoxy)-6-[2-hydroxy-1-(hydroxymethyl)ethyl]-12,13,14,6-tetra-O-(phenylmethyl)-β-D-glucopyranosyl-1- (R1) (CA INDEX NAME)

Absolute stereochemistry.

15 ANSWER 10 OF 16 CAPLUS COPYRIGHT 2008 ACS on STM

RE: Entered STM 31 Mar 2000
AB A new indolopyrrolizocarbazole compound, NB-506, modified at the glucose group yielded 3-β-D-glucopyranoside, 3-107,088, which showed potent antitumor activity. A β-D-glucopyranoside, 3-107,084, was found to be 6 times more potent than 3-107,088 at inhibiting topoisomerase I.

ACCESSION NUMBER: 2000-020740 CAPLUS

DOCUMENT NUMBER: 1374881

TITLE: Synthesis and biological activities of NB-506 analogues modified at the glucose group

AUTHOR(S): Okabe, Hiroyuki; Hishinuma, Teruyuki; Kawamoto, Hiroaki; Nakano, Masatoshi; Hama, Teruo; Yoshida, Tomoko; Arakawa, Hirohisa; Soda, Hiroyuki; Morishima, Hajime; Watanabe, Naomasa

CORPORATE SOURCE: Banyo Tsukuba Research Institute in collaboration

SOURCE: Merck Research Laboratories, Tsukuba, 300-2621, Japan
Biological & Medicinal Chemistry Letters (2000), 10(5), 439-442
CODEN: BMCLDH; ISSN: 0960-894X
Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 174402-32-5P, 3-107088 177350-46-5P 188884-05-1P

188884-17-5P 188884-18-7P 188884-20-5P

188884-21-1P 188884-22-2P 188884-23-3P

270917-81-2P 270917-83-6P 270917-84-4P

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270917-88-9P 270917-89-0P 270917-90-2P

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270917-94-7P

RE: NB (Biological activity or effector, except adverse); BEU (Biological study, unclassified); SPH (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

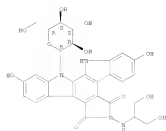
(synthesis and biol. activities of NB-506 analogues modified at the glucose group)

MO 174402-32-5 CAPLUS

CH 58-Indole [2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12-β-D-glucopyranosyl-12,13-dihydro-2,10-dihydro-6-[12-hydroxy-1-(hydroxymethyl)ethyl]amino- (CA INDEX NAME)

Absolute stereochemistry. Notation (+).

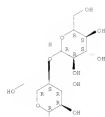
15 ANSWER 10 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



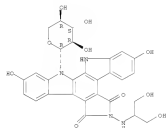
RI 171350-46-8 CAPLUS
 CN 5b-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
 12-[4-O-2-glucopyranosyl-β-D-D-glucopyranosyl]-12,13-dihydro-
 2,10-dihydroxy-6-[12-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

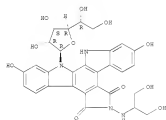


15 ANSWER 10 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



RI 188884-19-7 CAPLUS
 CN 5b-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
 12-[β-D-glucopyranosyl]-12,13-dihydro-2,10-dihydroxy-6-[12-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

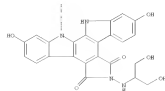


RI 188884-20-5 CAPLUS
 CN 5b-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
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Absolute stereochemistry.

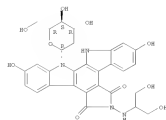
15 ANSWER 10 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

PAGE 2-A



RI 188884-05-1 CAPLUS
 CN 5b-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
 12-[2-deoxy-β-D-ribose-5-phosphoryl]-12,13-dihydro-2,10-dihydroxy-6-[12-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

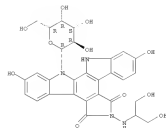
Absolute stereochemistry.



RI 188884-17-5 CAPLUS
 CN 5b-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
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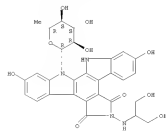
Absolute stereochemistry.

15 ANSWER 10 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



RI 188884-21-1 CAPLUS
 CN 5b-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
 12-[6-deoxy-β-D-glucopyranosyl]-12,13-dihydro-2,10-dihydroxy-6-[12-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

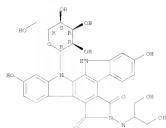
Absolute stereochemistry.



RI 188884-22-2 CAPLUS
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 12-[β-D-xylopyranosyl]-12,13-dihydro-2,10-dihydroxy-6-[12-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

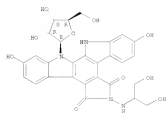
Absolute stereochemistry.

15 ANSWER 10 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



RN 270917-83-3 CAPLUS
 CN 5b-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
 12,13-dihydro-2,10-dihydroxy-6-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]-
 12-β-D-xylofuranosyl- (CA INDEX NAME)

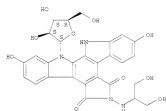
Absolute stereochemistry.



RN 270917-83-3 CAPLUS
 CN 5b-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
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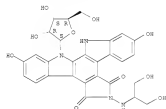
Absolute stereochemistry.

15 ANSWER 10 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



RN 270917-83-6 CAPLUS
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 12,13-dihydro-2,10-dihydroxy-6-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]-
 12-β-D-xylofuranosyl- (CA INDEX NAME)

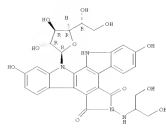
Absolute stereochemistry.



RN 270917-84-7 CAPLUS
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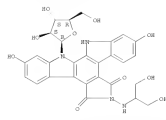
Absolute stereochemistry.

15 ANSWER 10 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



RN 270917-83-4 CAPLUS
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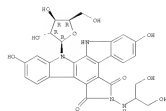
Absolute stereochemistry.



RN 270917-84-5 CAPLUS
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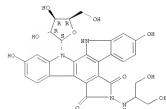
Absolute stereochemistry.

15 ANSWER 10 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



RN 270917-87-8 CAPLUS
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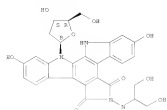
Absolute stereochemistry.



RN 270917-88-9 CAPLUS
 CN 5b-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
 12-β-D-xylofuranosyl-12,13-dihydro-2,10-dihydroxy-6-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

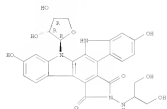
15 ANSWER 10 OF 16 CAPLOS COPYRIGHT 2008 ACS ON STN (Continued)



ZEN 270317-93-0 CAPLOS

EN 5B-Indole[1,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
12,13-dihydro-2,15-dihydroxy-6-[[12-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

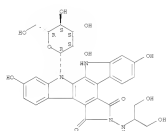


ZEN 270317-92-3 CAPLOS

EN 5B-Indole[1,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
12,13-dihydro-2,15-dihydroxy-6-[[12-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

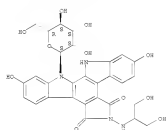
15 ANSWER 10 OF 16 CAPLOS COPYRIGHT 2008 ACS ON STN (Continued)



ZEN 270317-93-6 CAPLOS

EN 5B-Indole[1,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
12,13-dihydro-2,15-dihydroxy-6-[[12-hydroxy-1-(hydroxymethyl)ethyl]amino]-
12-a-2-methoxypropenyl- (CA INDEX NAME)

Absolute stereochemistry.

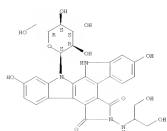


ZEN 270317-94-7 CAPLOS

EN 5B-Indole[1,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
12,13-dihydro-2,15-dihydroxy-6-[[12-hydroxy-1-(hydroxymethyl)ethyl]amino]-
6-[[12-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

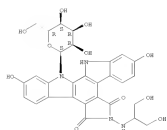
15 ANSWER 10 OF 16 CAPLOS COPYRIGHT 2008 ACS ON STN (Continued)



ZEN 270317-91-4 CAPLOS

EN 5B-Indole[1,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
12,13-dihydro-2,15-dihydroxy-6-[[12-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

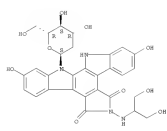


ZEN 270317-92-5 CAPLOS

EN 5B-Indole[1,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
12,13-dihydro-2,15-dihydroxy-6-[[12-hydroxy-1-(hydroxymethyl)ethyl]amino]-
12-a-2-methoxypropenyl- (CA INDEX NAME)

Absolute stereochemistry.

15 ANSWER 10 OF 16 CAPLOS COPYRIGHT 2008 ACS ON STN (Continued)



REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE SE
FORMAT

15 ANSWER 11 OF 16 CAPLUS COPYRIGHT 2008 ACS ON STN (Continued)
 ED Entered STN: 24 Dec 1999
 AB In the course of a study of 6-N-amino-substituted analogs of NB-506 (1),

more potent anticancer drug, 3-109,404 (2), in which the formyl group of NB-506 was replaced with a 3,3-dihydroxypropano group, was reported. A study of further modification in the positions of two hydroxyl groups at the indole rings of 2 resulted in the discovery of a 3,10-dihydroxy analog, 2-107,689 (3), which is a promising anticancer agent with a broader therapeutic window than 3-109,404.

ACCESSION NUMBER: 1999:101017 CAPLUS
 DOCUMENT NUMBER: 197120259

SYNTHESIS AND BIOLOGICAL ACTIVITIES OF NB-506 ANALOGUES: EFFECTS OF THE POSITIONS OF TWO HYDROXYL GROUPS AT THE INDOLINE RINGS
 Ohtsuo, Mitsuru; Nishimura, Teruyuki; Noma, Teraki; Nishimura, Shiro; Uto, Satoru; Yoshinari, Tamotsu; Suda, Hirochika; Arikawa, Hiroyuki; Morishima, Hajime; Nishimura, Shiro

CORPORATE SOURCE: Banyu Tsukuba Research Institute in collaboration

WILEY
 SOURCE: Murak Research Laboratories, Tsukuba, 300-2611, Japan

Biorganic & Medicinal Chemistry Letters (1999), 9(23), 3307-3312

CODEN: BMCLDH; ISSN: 0960-094X

Elsevier Science Ltd.

Journal

174402-31-4P 174402-32-5P 188883-97-8P

188883-99-0P 188884-01-7P 188884-03-9P

188884-04-3P 188884-07-2P 188884-09-5P

188884-11-9P 188884-15-1P 188884-15-3P

188884-18-9P 260798-10-5P 260798-11-8P

260798-12-7P 260798-13-5P 260798-14-9P

260798-15-4P

RI: RAC (Biological activity or effector, except adverse); R01

(Biological study, unclassified); SPM (Synthetic preparation); R01 (Biological study); PREP (Preparation)

Synthesis and anticancer activity of NB-506 analogs and effects of the positions of two hydroxyl groups at the indole rings)

22 174402-31-4 CAPLUS

38 NB-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12- β -D-glucopyranosyl-12,13-dihydro-2,8-dihydroxy-4-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

188883-97-8 CAPLUS

38 NB-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12- β -D-glucopyranosyl-12,13-dihydro-2,8-dihydroxy-4-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

188884-03-3 CAPLUS

38 NB-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12- β -D-glucopyranosyl-12,13-dihydro-2,8-dihydroxy-4-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

188884-01-7 CAPLUS

38 NB-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12- β -D-glucopyranosyl-12,13-dihydro-2,8-dihydroxy-4-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

188884-02-7 CAPLUS

38 NB-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12- β -D-glucopyranosyl-12,13-dihydro-2,8-dihydroxy-4-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

188884-03-3 CAPLUS

38 NB-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12- β -D-glucopyranosyl-12,13-dihydro-2,8-dihydroxy-4-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

188884-04-3 CAPLUS

38 NB-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12- β -D-glucopyranosyl-12,13-dihydro-2,8-dihydroxy-4-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

188884-05-5 CAPLUS

38 NB-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12- β -D-glucopyranosyl-12,13-dihydro-2,8-dihydroxy-4-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

188884-06-2 CAPLUS

38 NB-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12- β -D-glucopyranosyl-12,13-dihydro-2,8-dihydroxy-4-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

188884-07-3 CAPLUS

38 NB-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12- β -D-glucopyranosyl-12,13-dihydro-2,8-dihydroxy-4-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

188884-08-5 CAPLUS

38 NB-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12- β -D-glucopyranosyl-12,13-dihydro-2,8-dihydroxy-4-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

188884-09-7 CAPLUS

38 NB-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12- β -D-glucopyranosyl-12,13-dihydro-2,8-dihydroxy-4-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

188884-10-9 CAPLUS

38 NB-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12- β -D-glucopyranosyl-12,13-dihydro-2,8-dihydroxy-4-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

188884-11-1 CAPLUS

38 NB-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12- β -D-glucopyranosyl-12,13-dihydro-2,8-dihydroxy-4-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

188884-12-3 CAPLUS

38 NB-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12- β -D-glucopyranosyl-12,13-dihydro-2,8-dihydroxy-4-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

188884-13-5 CAPLUS

38 NB-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12- β -D-glucopyranosyl-12,13-dihydro-2,8-dihydroxy-4-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

188884-14-7 CAPLUS

38 NB-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12- β -D-glucopyranosyl-12,13-dihydro-2,8-dihydroxy-4-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

188884-15-9 CAPLUS

38 NB-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12- β -D-glucopyranosyl-12,13-dihydro-2,8-dihydroxy-4-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

15 ANSWER 11 OF 16 CAPLUS COPYRIGHT 2008 ACS ON STN (Continued)

15 ANSWER 11 OF 16 CAPLUS COPYRIGHT 2008 ACS ON STN (Continued)

15 ANSWER 11 OF 16 CAPLUS COPYRIGHT 2008 ACS ON STN (Continued)

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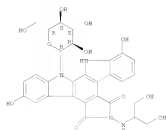
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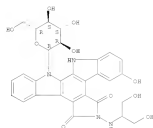
15 ANSWER 11 OF 16 CAPLUS COPYRIGHT 2008 ACS ON STN (Continued)

15 ANSWER 11 OF 16 CAPLOS COPYRIGHT 2008 ACS ON STN (Continued)



XX 188884-01-3 CAPLOS
 CN 58-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
 12-β-D-glucopyranosyl-12,13-dihydro-3-hydroxy-6-[[12-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

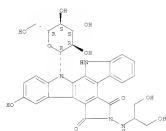
Absolute stereochemistry.



XX 188884-09-5 CAPLOS
 CN 58-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
 13-β-D-glucopyranosyl-12,13-dihydro-2-hydroxy-6-[[12-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

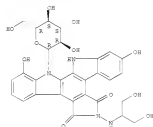
Absolute stereochemistry.

15 ANSWER 11 OF 16 CAPLOS COPYRIGHT 2008 ACS ON STN (Continued)



XX 188884-15-3 CAPLOS
 CN 58-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
 12-β-D-glucopyranosyl-12,13-dihydro-3,8-dihydroxy-6-[[12-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

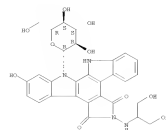
Absolute stereochemistry.



XX 188884-29-9 CAPLOS
 CN 58-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
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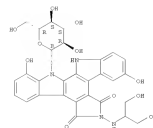
Absolute stereochemistry.

15 ANSWER 11 OF 16 CAPLOS COPYRIGHT 2008 ACS ON STN (Continued)



XX 188884-11-9 CAPLOS
 CN 58-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
 13-β-D-glucopyranosyl-12,13-dihydro-3,9-dihydroxy-6-[[12-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

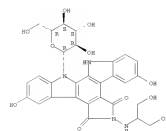
Absolute stereochemistry.



XX 188884-13-3 CAPLOS
 CN 58-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
 13-β-D-glucopyranosyl-12,13-dihydro-3-hydroxy-6-[[12-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

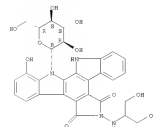
Absolute stereochemistry.

15 ANSWER 11 OF 16 CAPLOS COPYRIGHT 2008 ACS ON STN (Continued)



XX 260798-10-3 CAPLOS
 CN 58-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
 13-β-D-glucopyranosyl-12,13-dihydro-3-hydroxy-6-[[12-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

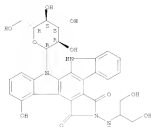
Absolute stereochemistry.



XX 260798-11-6 CAPLOS
 CN 58-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
 13-β-D-glucopyranosyl-12,13-dihydro-4-hydroxy-6-[[12-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

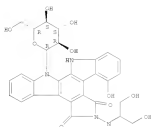
Absolute stereochemistry.

15 ANSWER 11 OF 16 CAPLUS COPYRIGHT 2008 ACS ON STN (Continued)



HN 260798-12-3 CAPLUS
 CN 58-Indolo[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
 12-β-D-glucopyranosyl-12,13-dihydro-4-hydroxy-6-[12-hydroxy-1-(hydroxymethyl)ethyl]amino- (CA INDEX NAME)

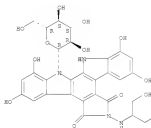
Absolute stereochemistry.



HN 260798-13-8 CAPLUS
 CN 58-Indolo[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
 12-β-D-glucopyranosyl-12,13-dihydro-4-hydroxy-6-[12-hydroxy-1-(hydroxymethyl)ethyl]amino- (CA INDEX NAME)

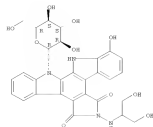
Absolute stereochemistry.

15 ANSWER 11 OF 16 CAPLUS COPYRIGHT 2008 ACS ON STN (Continued)



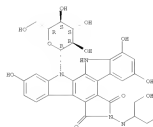
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15 ANSWER 11 OF 16 CAPLUS COPYRIGHT 2008 ACS ON STN (Continued)



HN 260798-14-9 CAPLUS
 CN 58-Indolo[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
 12-β-D-glucopyranosyl-12,13-dihydro-4-hydroxy-6-[12-hydroxy-1-(hydroxymethyl)ethyl]amino- (CA INDEX NAME)

Absolute stereochemistry.



HN 260798-15-8 CAPLUS
 CN 58-Indolo[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
 12-β-D-glucopyranosyl-12,13-dihydro-4-hydroxy-6-[12-hydroxy-1-(hydroxymethyl)ethyl]amino- (CA INDEX NAME)

Absolute stereochemistry.

15 ANSWER 12 OF 16 CAPLUS COPYRIGHT 2008 ACS ON STN
 ED Entered STN: 17 Sep 1998
 CI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Indolopyrrololecarbazole derivs. I and II were prepared and their antitumor activity studied.

ACCESSION NUMBER: 1998:590732 CAPLUS
 129:225719
 TITLE: Antitumor Indolopyrrololecarbazole Derivatives
 Kojima, Katsuhisa; Kondo, Hisao; Arakawa, Hiroharu;
 Ohnuma, Mitsunori; Suda, Haruyuki.
 PATENT ASSIGNEE(S): Banyu Pharmaceutical Co., Ltd., Japan
 SOURCE: U.S., 25 pp., Cont.-in-part of U.S. 5,532,842.
 CDBN: US000M
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 6

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5804564	A	19980908	US 1994-777982	19951128
PL 172609	B1	19971031	PL 1992-716269	19931127
US 5591842	A	19970107	US 1994-255980	19940608
CA 2190007	A1	19951116	CA 1995-2190007	19950502
CA 2190007	C	20030415		
CA 2413207	A1	19951116	CA 1995-2413037	19950502
CA 2413207	C	20070626		
WO 9530482	A1	19951116	WO 1995-29868	19950502
W, AU, CA, CH, JP, KR, US				
DE, AT, SE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CH 1153618	A	19970702	CH 1995-193830	19950502
CN 1106400	B	20030415		
EP 124836	A1	20021211	EP 2002-18235	19950502
EP 124836	B1	20041201		
PT 760375	T	20040430	PT 1995-917506	19950502
KR 2004501	T3	20040516	KR 1995-917506	19950502
CN 1313845	A	20040721	CN 2002-280216348	19950502
AT 293863	T	20041215	AT 2002-18235	19950502
PT 2144816	T	20040209	PT 2002-18235	19950502
KR 230433	T3	20050801	KR 2002-18235	19950502
US 6922860	US	19990713	US 1998-022860	19990127
US 1067948	A1	20070713	US 2002-106209	20020211

PRIORITY APPL. INFO.:

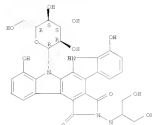
JP 1994-145648	A	19940403
US 1994-255980	A2	19940608
WO 1995-29868	W	19950502
JP 1993-741936	A	19931129

15 ANSWER 12 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 JP 1992-69269 A 19920218
 JP 1992-25706 A 19920901
 US 1992-981070 A2 19921124
 WO 1992-01549 W 19921127
 US 1993-60097 R2 19930528
 US 1993-164364 A2 19931214
 CA 1995-2190007 A3 19950502
 EP 1995-91706 A3 19950502

OTHER SOURCE(S): MARPAT 129/225719

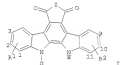
17 17440-12-4P 174400-12-5P
 R1a RAC (Biological activity or effector, except adverse); RBD (Biological study, unclassified); SPN (Synthetic preparation); RBD (Biological study); PREP (Preparation) (antitumor indolopyrrolocarbazole deriv.)
 R2 17440-12-4 CAPLUS
 CN 58-Indolo[1,2-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12- β -D-glucopyranosyl-12,13-dihydro-2,10-dihydroxy-6-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.



R2 17440-12-5 CAPLUS
 CN 58-Indolo[1,2-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12- β -D-glucopyranosyl-12,13-dihydro-2,10-dihydroxy-6-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

15 ANSWER 13 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 KR Entered STN: 05 May 1997
 GI



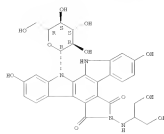
AB Nucleoside analogs represented by general formula (1), (2) = WHEREIN R = C=O-alkyl; having 1 to 3 hydroxyl group; R1, R2 = H or OH; G = pentose or deose, provided that R1 and R2 do not represent H at the same time, and excluding the case where R1 is OH at the 3-position and R2 is OH at the 11-position where R1 is CH(CH2OH), and another case where R1 is OH at the 2-position and R2 is OH at the 12-position where R1 is CH(CH2OH), which have an excellent antitumor effect, are prepared. Thus, a disaccharidic acid anhydride (2) (R = O, R1 = 2-MeO, R2 = 10-MeO) (preparation given) was started with 2-hydroxyethylhydrazine in DMF at 80°C for 1.5 h to give 1 (2) = H2C(CH2OH), R1 = 2-MeO, R2 = 10-MeO), which at 16 mg/kg total in vivo inhibited 75% the proliferation of human stomach cancer MKN-45 cells in nude mice.

ACCESSION NUMBER: 199729384 CAPLUS
 DOCUMENT NUMBER: 126164513
 TITLE: Preparation of N-glycosylindolopyrrolocarbazole derivatives as antitumor agents
 INVENTOR(S): Miyaji, Takeshi; Morita, Hisao; Asakawa, Hiroharu; Oikawa, Mitsuru; Ikeda, Ritsuko
 PATENT ABSTRACT(S): Sanyo Pharmaceutical Co., Ltd., Japan
 SOURCE: PCT Int. Appl., 114 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COMMENT: 1
 PATENT INFORMATION:

PATENT NO.	WFO	DATE	APPLICATION NO.	DATE
NO 870329	AS	19970313	NO 1996-072404	19960328
W: NO, CA, CN, JP, KR, US				
SE: AT, AU, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SI				
NO 944384	A	19970327	NO 1996-69366	19960328
PRIORITY APPL. INFO.			JP 1995-251855	A 19950905
			NO 1996-072404	W 19960328

OTHER SOURCE(S): MARPAT 126/24312
 IT 188883-87-EP 188883-89-EP 188884-02-TP
 188884-01-EP 188884-05-EP 188884-06-EP
 188884-07-EP 188884-09-EP 188884-11-EP

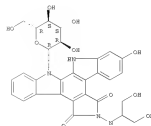
15 ANSWER 12 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 Absolute stereochemistry. Rotation (+).



REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE SE FORMAT

15 ANSWER 13 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 188884-13-EP 188884-13-EP 188884-11-EP
 188884-13-TP 188884-20-EP 188884-11-EP
 188884-22-EP 188884-23-EP 188884-27-TP
 188884-29-EP 188884-31-EP 188884-32-EP
 188884-35-TP
 R1a RAC (Biological activity or effector, except adverse); RBD (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); RBD (Biological study); PREP (Preparation); USES (Uses) (prepn. of N-glycosylindolopyrrolocarbazole derivs. as antitumor agents)
 R2 188883-97-8 CAPLUS
 CN 58-Indolo[1,2-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12- β -D-glucopyranosyl-12,13-dihydro-2-hydroxy-6-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

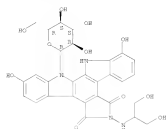
Absolute stereochemistry.



R2 188883-99-8 CAPLUS
 CN 58-Indolo[1,2-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione, 12- β -D-glucopyranosyl-12,13-dihydro-2,10-dihydroxy-6-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

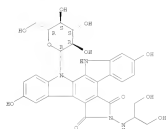
Absolute stereochemistry.

15 ANSWER 13 OF 16 CAPLOS COPYRIGHT 2008 ACS on STN (Continued)



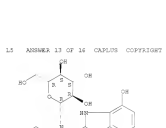
ZN 188884-01-7 CAPLOS
CN 5b-Indole[2,3-a]pyrrole[3,4-c]carbazole-5,7(6H)-dione,
12-β-D-glucopyranosyl-12,13-dihydro-2,9-dihydroxy-6-[12-hydroxy-1-(hydroxymethyl)ethyl]amino)- (CA INDEX NAME)

Absolute stereochemistry.

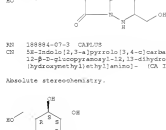


ZN 188884-02-9 CAPLOS
CN 5b-Indole[2,3-a]pyrrole[3,4-c]carbazole-5,7(6H)-dione,
12-β-D-glucopyranosyl-12,13-dihydro-2,9-dihydroxy-6-[12-hydroxy-1-(hydroxymethyl)ethyl]amino)- (CA INDEX NAME)

Absolute stereochemistry.

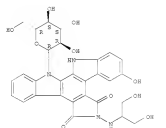


15 ANSWER 13 OF 16 CAPLOS COPYRIGHT 2008 ACS on STN (Continued)



ZN 188884-07-3 CAPLOS
CN 5b-Indole[2,3-a]pyrrole[3,4-c]carbazole-5,7(6H)-dione,
12-β-D-glucopyranosyl-12,13-dihydro-2,9-dihydroxy-6-[12-hydroxy-1-(hydroxymethyl)ethyl]amino)- (CA INDEX NAME)

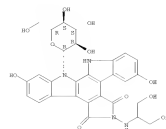
Absolute stereochemistry.



ZN 188884-09-5 CAPLOS
CN 5b-Indole[2,3-a]pyrrole[3,4-c]carbazole-5,7(6H)-dione,
12-β-D-glucopyranosyl-12,13-dihydro-2,9-dihydroxy-6-[12-hydroxy-1-(hydroxymethyl)ethyl]amino)- (CA INDEX NAME)

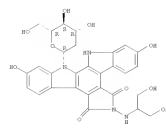
Absolute stereochemistry.

15 ANSWER 13 OF 16 CAPLOS COPYRIGHT 2008 ACS on STN (Continued)



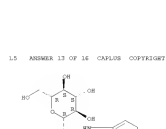
ZN 188884-05-1 CAPLOS
CN 5b-Indole[2,3-a]pyrrole[3,4-c]carbazole-5,7(6H)-dione,
12-(2-deoxy-β-D-arabin-hezopyranosyl)-12,13-dihydro-2,10-dihydroxy-6-[12-hydroxy-1-(hydroxymethyl)ethyl]amino)- (CA INDEX NAME)

Absolute stereochemistry.

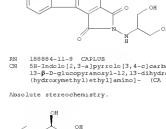


ZN 188884-06-2 CAPLOS
CN 5b-Indole[2,3-a]pyrrole[3,4-c]carbazole-5,7(6H)-dione,
12-(2-deoxy-β-D-arabin-hezopyranosyl)-12,13-dihydro-2,10-dihydroxy-6-[12-hydroxy-1-(hydroxymethyl)ethyl]amino)- (CA INDEX NAME)

Absolute stereochemistry.

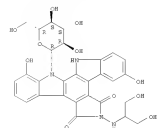


15 ANSWER 13 OF 16 CAPLOS COPYRIGHT 2008 ACS on STN (Continued)



ZN 188884-11-9 CAPLOS
CN 5b-Indole[2,3-a]pyrrole[3,4-c]carbazole-5,7(6H)-dione,
12-(2-deoxy-β-D-arabin-hezopyranosyl)-12,13-dihydro-2,10-dihydroxy-6-[12-hydroxy-1-(hydroxymethyl)ethyl]amino)- (CA INDEX NAME)

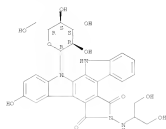
Absolute stereochemistry.



ZN 188884-13-1 CAPLOS
CN 5b-Indole[2,3-a]pyrrole[3,4-c]carbazole-5,7(6H)-dione,
12-(2-deoxy-β-D-arabin-hezopyranosyl)-12,13-dihydro-2,10-dihydroxy-6-[12-hydroxy-1-(hydroxymethyl)ethyl]amino)- (CA INDEX NAME)

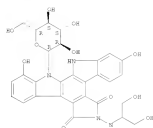
Absolute stereochemistry.

15 ANSWER 13 OF 16 CAPLUS COPYRIGHT 2008 ACS ON STN (Continued)



EN 188884-13-3 CAPLUS
CN 5B-Indole[2,3-a]pyrrole[3,4-c]carbazole-5,7(6H)-dione,
12-β-D-glucopyranosyl-12,13-dihydro-1,10-dihydroxy-6-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

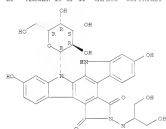
Absolute stereochemistry.



EN 188884-13-5 CAPLUS
CN 5B-Indole[2,3-a]pyrrole[3,4-c]carbazole-5,7(6H)-dione,
12,13-dihydro-2,10-dihydroxy-6-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]-
12-β-D-xylopyranosyl- (PCI) (CA INDEX NAME)

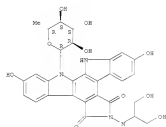
Absolute stereochemistry.

15 ANSWER 13 OF 16 CAPLUS COPYRIGHT 2008 ACS ON STN (Continued)



EN 188884-13-1 CAPLUS
CN 5B-Indole[2,3-a]pyrrole[3,4-c]carbazole-5,7(6H)-dione,
12-(6-deoxy-β-D-glucopyranosyl)-12,13-dihydro-2,10-dihydroxy-6-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

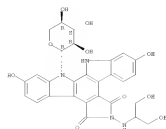
Absolute stereochemistry.



EN 188884-12-2 CAPLUS
CN 5B-Indole[2,3-a]pyrrole[3,4-c]carbazole-5,7(6H)-dione,
12-β-D-allopyranosyl-12,13-dihydro-2,10-dihydroxy-6-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

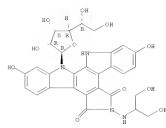
Absolute stereochemistry.

15 ANSWER 13 OF 16 CAPLUS COPYRIGHT 2008 ACS ON STN (Continued)



EN 188884-12-7 CAPLUS
CN 5B-Indole[2,3-a]pyrrole[3,4-c]carbazole-5,7(6H)-dione,
12-β-D-allofuranosyl-12,13-dihydro-2,10-dihydroxy-6-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

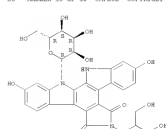
Absolute stereochemistry.



EN 188884-20-0 CAPLUS
CN 5B-Indole[2,3-a]pyrrole[3,4-c]carbazole-5,7(6H)-dione,
12,13-dihydro-2,10-dihydroxy-6-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

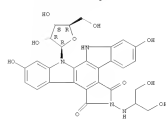
Absolute stereochemistry.

15 ANSWER 13 OF 16 CAPLUS COPYRIGHT 2008 ACS ON STN (Continued)



EN 188884-23-3 CAPLUS
CN 5B-Indole[2,3-a]pyrrole[3,4-c]carbazole-5,7(6H)-dione,
12,13-dihydro-2,10-dihydroxy-6-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]-
12-β-D-ribofuranosyl- (CA INDEX NAME)

Absolute stereochemistry.



EN 188884-21-7 CAPLUS
CN 5B-Indole[2,3-a]pyrrole[3,4-c]carbazole-5,7(6H)-dione,
12,13-dihydro-2-hydroxy-6-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]-12-β-D-xylofuranosyl- (PCI) (CA INDEX NAME)

Absolute stereochemistry.

15 ANSWER 14 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

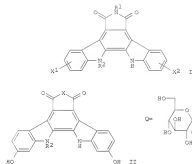
US 5593365 A 19921231 US 1995-303286 19950131
 WO 9302682 A 19951116 WO 1995-39868 19950502
 WU, AW, CA, CH, JP, KR, US
 FM, AT, BE, CH, DE, DK, ES, FR, GB, GR, IL, IT, LU, MC, NL, PT, SE
 US 5668271 A 19970918 US 1995-476559 19950507
 US 5646564 A 19980909 US 1996-737382 19961109
 PRIORITY APPS. INFO.: JP 1991-247316 JP 1991-112129

JP 1992-69269 A 19920218
 JP 1992-257304 A 19920401
 US 1992-991070 A2 19921124
 US 1993-68097 A2 19930520
 US 1993-166364 A2 19931214
 CS 1992-3500 A 19921127
 WO 1992-JP1549 M 19921127
 JP 1992-353623 A 19921214
 JP 1993-150315 A 19930218
 JP 1994-129403 A 19940509
 JP 1994-145649 A 19940609
 US 1994-255980 A2 19940609
 WO 1995-39868 M 19950502

OTHER SOURCE(S): MARPAT 126157762
 IT 174402-32-9
 R1a RAC [Biological activity or effector, except adenosine] R80
 [Biological]
 R10R, unclassified; R9M [Synthetic preparation]; T80 [Therapeutic use]
 R10L [Biological study]; P88P [Preparation]; U88E [Uses]
 Preparation of indolopyrroloaraboside nucleoside analogs as
 antitumors:
 HN 174402-32-5 CAPLUS
 CH 56-Indolo[2,3-a]pyrrolo[3,4-c]oxazole-5,7(EH)-dione,
 12-[3-O-(4-glycidyloxybutyl)-2,3-dihydro-2,10-dihydroxy-4-[[2-hydroxy-1-
 (hydroxymethyl)ethyl]amino]-1-(CA INDEN NAME)]

Absolute stereochemistry. Rotation (+).

15 ANSWER 13 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN
 RD Entered STN 13 Jun 1994
 CI

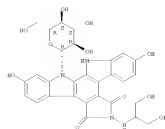


AS Compd. represented by general formula [I]; X1, X2 = R, halo, NR2,
 mono/lower alkylamino, di/lower alkylamino, HO, lower alkyl, aralkyl,
 CO2R, lower alkylcarbamoyl, lower alkylamino, or lower alkyl which may
 be substituted by one or two R groups; R1 = H, NR2, benzylamino, lower
 alkylamino, mono/lower alkylamino, di/lower alkylamino, HO, lower
 alkyl, aralkyl, aralkyl, lower alkylcarbamoyl, aralkylamino, or lower
 alkyl, whereas the lower alkylamino, mono/lower alkylamino, di/lower
 alkylamino, lower alkyl, aralkyl, aralkyl, lower alkylcarbamoyl,
 aralkylamino, and lower alkyl may be substituted by one to five groups
 selected from among CO2R, CO2NR, SO2R, NR2, cyano, mono/lower
 alkylamino,
 di/lower alkylamino, HO, heteroalkyl which may be substituted by one to
 three R groups, and halogen atoms; R2 = disaccharide group or
 pharmaceutically acceptable salts thereof are prepared by microalgal
 glycosylation with Saccharothrix aeroligena or chemical
 modification.

Thus, glycosylation of 2,10-diethoxy-6-methylindolo[2,3-a]pyrrolo[3,4-
 c]oxazole-5,7-dione with chloro-3-epi-2,3,4,6-tetra-O-benzyl- β -D-
 glucopyranosyl-2,3-O-isopropylidene- α -D-ribofuranose in the
 presence of K2CO3 and MgSO4 in MeCN at room temperature for 6 h followed by
 hydrolysis with Pd-C in CH2Cl2-MeOH under H atmospheric and treatment
 with a
 mixture of THF and 10% NaOH/MeOH gave the intermediate (II); X = HMe, R2 =
 O, which was stirred with 10% aqueous NaOH at room temperature for 1 h and
 recrystallized

Young, Shawquia, Page 23

15 ANSWER 14 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



15 ANSWER 15 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 with 2 H aq. HCl to give the indolo[2,3-a]furanol-4-oxoindole II (X =
 O, R2 = O) and then stirred with 2-hydroxy-1,3-propanediol in DMSO at
 room temp. for 3 h to give the title compd. II [X = NHCH2CH2CH2O, R2 =
 O]. II [X = NHCH2CH2CH2O, R2 = O] showed IC50 of 0.002, 0.036, 0.075,
 and 0.044 μ M for inhibiting the proliferation of mouse leukemia P388,
 mouse colon cancer colon 26, human lung cancer PC-13, and human stomach
 cancer NDN-45 cells, resp.

ACCESSION NUMBER: 1994-140503 CAPLUS
 DOCUMENT NUMBER: 12514036
 TITLE: Preparation of antitumor indolopyrroloaraboside
 glycosides
 INVENTOR(S):
 Nituru
 Kawamura, Kenji; Kondo, Hisao; Arakawa, Hisaharu
 Sudo, Hisayuki
 PATENT ASSIGNOR(S):
 SUGIURA
 Kanyo Pharmaceutical Co., Ltd., Japan
 PCT Int. Appl., 58 pp.
 COBRI: P1A02
 DOCUMENT TYPE:
 Patent
 LANGUAGE:
 Japanese
 FAMILY ACC. NUM. COUNT: 1

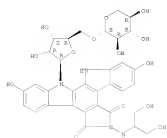
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9404293	A2	19940215	WO 1995-011490	19950726
WU, AW, CA, CH, JP, KR, US				
FM, AT, BE, CH, DE, DK, ES, FR, GB, GR, IL, IT, LU, MC, NL, PT, SE				
AU 1995-30864	A	19960504	AU 1995-30864	19950726
PRIORITY APPS. INFO.:				
JP 1994-000110	A	1994-000110	A	19940502
WO 1995-31400	M	19950726		

OTHER SOURCE(S): MARPAT 12514036
 IT 177350-39-9P 177350-40-2P 177350-41-3P
 177350-42-4P 177350-43-5P 177350-44-6P
 177350-45-7P 177350-46-8P 177350-47-9P
 R1a RAC [Biological activity or effector, except adenosine] R80
 [Biological]
 study, unclassified; R9M [Synthetic preparation]; T80 [Therapeutic use]
 R10L [Biological study]; P88P [Preparation]; U88E [Uses]
 Preparation of antitumor indolopyrroloaraboside glycosides:
 HN 177350-39-9 CAPLUS
 CH 56-Indolo[2,3-a]pyrrolo[3,4-c]oxazole-5,7(EH)-dione,
 12-[3-O-(2,3-O-isopropylidene- α -D-ribofuranosyl)-2,3-dihydro-2,10-dihydroxy-4-[[2-hydroxy-1-
 (hydroxymethyl)ethyl]amino]-1-(CA INDEN NAME)]

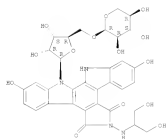
Absolute stereochemistry.

15 ANSWER 15 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



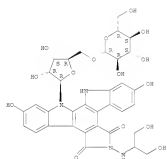
320 177350-40-2 CAPLUS
 CH 58-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
 12-(4-O-beta-D-glucopyranosyl-1-beta-D-ribofuranosyl)-12,13-dihydro-
 2,10-dihydroxy-6-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.



320 177350-41-3 CAPLUS
 CH 58-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
 12-(5-O-alpha-D-glucopyranosyl-1-alpha-D-ribofuranosyl)-12,13-dihydro-
 2,10-dihydroxy-6-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

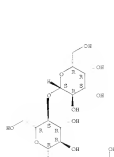
15 ANSWER 15 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



320 177350-43-5 CAPLUS
 CH 58-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
 12-(4-O-beta-D-galactopyranosyl-1-beta-D-glucopyranosyl)-12,13-dihydro-
 2,11-dihydroxy-6-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

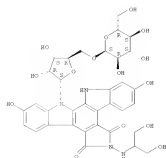
PAGE 1-A



15 ANSWER 15 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

NAME:

Absolute stereochemistry.

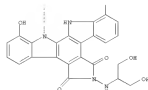


320 177350-42-4 CAPLUS
 CH 58-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
 12-(4-O-beta-D-glucopyranosyl-1-beta-D-ribofuranosyl)-12,13-dihydro-
 2,10-dihydroxy-6-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

Absolute stereochemistry.

15 ANSWER 15 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

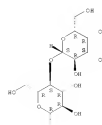
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320 177350-44-6 CAPLUS
 CH 58-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione,
 12-(4-O-beta-D-galactopyranosyl-1-beta-D-glucopyranosyl)-12,13-dihydro-
 2,10-dihydroxy-6-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX NAME)

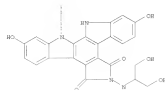
Absolute stereochemistry.

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15 ANSWER 15 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

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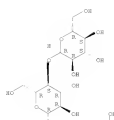


RN 177350-45-7 CAPLUS

CH 5R-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6R)-dione,
12-[(4-O-α-D-glucopyranosyl)-β-D-glucopyranosyl]-12,13-dihydro-
2,10-dihydroxy-6-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX
10085)

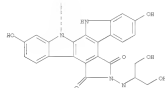
Absolute stereochemistry.

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15 ANSWER 15 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

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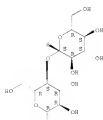


RN 177350-47-9 CAPLUS

CH 5R-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6R)-dione,
12-[(4-O-α-D-glucopyranosyl)-β-D-glucopyranosyl]-12,13-dihydro-
2,10-dihydroxy-6-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX
10085)

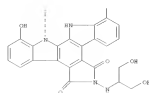
Absolute stereochemistry.

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15 ANSWER 15 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

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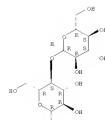


RN 177350-46-8 CAPLUS

CH 5R-Indole[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6R)-dione,
12-[(4-O-α-D-glucopyranosyl)-β-D-glucopyranosyl]-12,13-dihydro-
2,10-dihydroxy-6-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]- (CA INDEX
10085)

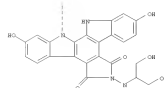
Absolute stereochemistry.

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15 ANSWER 15 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

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10/03/2008,10524274.trn

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COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
90.56	269.13

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
-12.80	-12.80

CA SUBSCRIBER PRICE

SESSION WILL BE HELD FOR 120 MINUTES

STN INTERNATIONAL SESSION SUSPENDED AT 12:05:20 ON 10 MAR 2008